

REPORT OF "TAR" AND NICOTINE CONTENT OF  
THE SMOKE OF 120 VARIETIES OF CIGARETTES  
OCTOBER 21, 1970

The Federal Trade Commission's laboratory has determined the "tar" (dry particulate matter) and total alkaloid (reported as nicotine) content of 120 varieties of cigarettes. The laboratory utilized the Cambridge filter method with the following specifications as set forth in the Commission's announcement of July 31, 1967:

1. Smoke cigarettes to a 23 mm. butt length, or to the length of the filter and overwrap plus 3 mm. if in excess of 23 mm.,
2. Base results on a test of 100 cigarettes per brand, or type,
3. Cigarettes to be tested will be selected on a random basis, as opposed to "weight selection",
4. Determine particulate matter on a "dry" basis employing the gas chromatography method published by C. H. Sloan and B. J. Sublett in Tobacco Science 9, page 70, 1965, as modified by F. J. Schultz and A. W. Spears' report published in Tobacco Vol. 162, No. 24, page 32, dated June 17, 1966, to determine the moisture content,
5. Determine and report the "tar" content after subtracting moisture and alkaloids (as nicotine) from particulate matter.

Concerning the 120 varieties tested, 29 were capable of being smoked to 23 mm. or to an average range of between 23 and 24 mm. The butt lengths of the other 91 varieties tested ranged from 23 mm. to an average of between 37.2 and 40.3 mm. The butt lengths of 40 of the 120 varieties tested exceeded 30 mm.

The samples used were obtained by attempting to purchase two packages of each variety of cigarettes during May of 1970 and June of 1970 in each of 50 geographic locations throughout the country. All varieties of cigarettes were not available in each of the 50 geographic locations and in these instances, one or more additional packages of cigarettes were purchased in those geographic locations where the respective varieties were available. The samples utilized in the tests were representative of the 120 varieties of cigarettes as available throughout the country at the time of purchase.

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In the Table listing the cigarette varieties in alphabetical order the "tar" content is reported to the nearest 1/10 milligram and the nicotine to the nearest 1/100 milligram, each with appropriate statistical values. The average weight is reported in grams per cigarette and the butt length range to the nearest 1/10 millimeter. In all other tables the average weight and butt length columns and the figures representing the standard deviation of the mean have been eliminated; the "tar" figures have been rounded off to whole numbers and nicotine figures to tenths of milligrams. Two tables respectively list varieties in increasing order of "tar" values and in increasing order of nicotine values, the other two lists tabulate the current and four previous tests. Accordingly, "tar" and nicotine figures in these tables and lists represent rounded off averages without indication of their precision.

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Name	Type <sup>1</sup>	Average weight <sup>2</sup>	Butt length <sup>3</sup>	TMM dry <sup>4</sup>	Nicotine <sup>5</sup>
Alpine	F, M, SP	65 mm	1.604	24.5 - 25.6 cm	15.5 ± 0.4
Balair	F, M, SP	65 mm	0.950	27 - 29 cm	16.4 ± 0.5
Balair	F, M, SP	100 mm	1.150	32.2 - 33.8 cm	16.3 ± 0.3
Benson & Hedges	F, IGP	70 mm	0.655	23 cm	16.7 ± 0.4
Benson & Hedges	F, IGP	85 mm	1.057	26.4 - 27.7 cm	20.0 ± 0.5
Benson & Hedges	F, SP	100 mm	1.210	34 - 36 mm	20.2 ± 0.4
Benson & Hedges	F, M, SP	100 mm	1.2018	34 - 37 mm	19.1 ± 0.4
Bull Durham	F, SP	65 mm	1.0346	26 - 27 mm	28.4 ± 0.4
Camel	NF, SP	70 mm	0.9511	23 mm	23.5 ± 0.5
Camel	F, SP	65 mm	1.0448	26 - 27.6 cm	19.5 ± 0.4
Carlton <sup>6</sup>	F, SP	70 mm	0.8470	32 - 33.5 cm	1.6 ± 0.2
Carlton	F, SP	85 mm	1.0522	31.4 - 34.7 cm	3.6 ± 0.3
Century	F, SP	100 mm	1.2509	31 - 35.1 cm	20.9 ± 0.5
Chesterfield	NF, SP	70 mm	0.9553	23 cm	24.1 ± 0.5
Chesterfield	NF, SP	85 mm	1.1533	23 cm	28.1 ± 0.4
Chesterfield	F, SP	85 mm	1.0628	26 - 28 cm	20.2 ± 0.4
Chesterfield	F, M, SP	85 mm	1.0537	26 - 28 cm	18.1 ± 0.6
Chesterfield	F, SP	101 mm	1.2505	29 - 32 cm	29.0 ± 0.5
Danillo	NF, SP	85 mm	1.2652	23 cm	25.2 ± 0.6
Domino	F, SP	65 mm	1.1756	23.8 - 24.4 cm	21.7 ± 0.6
Domino	F, M, SP	85 mm	1.1852	23 - 26 mm	17.2 ± 0.6
Doral	F, SP	85 mm	1.1615	32 - 34 cm	13.9 ± 0.4
Doral	F, M, SP	85 mm	1.1631	31 - 34.3 cm	13.2 ± 0.1
Duke	F, SP	85 mm	1.1641	31.8 - 34.9 cm	9.5 ± 0.3
Dunhill	F, IGP	85 mm	1.0505	26.9 - 29 cm	18.0 ± 0.3
Edgeworth Export	F, IGP	85 mm	1.0923	26.5 - 28 cm	18.0 ± 0.5
Edgeworth Export	F, SP	100 mm	1.2731	31.9 - 32.1 cm	19.6 ± 0.5
English Ovals	NF, IGP	70 mm	1.0695	23 cm	24.1 ± 0.6
English Ovals	NF, IGP	85 mm	1.2431	23 cm	28.5 ± 0.4
Fatima	NF, SP	85 mm	1.1965	23 cm	30.9 ± 0.6
Frappe	F, M, SP	85 mm	1.1305	26.8 - 28.4 cm	8.5 ± 0.3
Galaxy	F, SP	85 mm	1.1802	27.2 - 29.9 cm	14.4 ± 0.3
Gauloises Caporal	NF, SP	70 mm	1.0916	23 cm	20.0 ± 0.3
Gauloises Disque Bleu	F, SP	70 mm	1.0510	23 cm	17.3 ± 0.6
Hall & Hall	F, SP	85 mm	1.1782	26 - 28 cm	23.2 ± 0.5
Herbert Tareyton	NF, SP	85 mm	1.1438	23 cm	27.6 ± 0.4
Home Run	NF, SP	70 mm	0.9126	23 cm	18.4 ± 0.5
Kent	F, SP	70 mm	0.9267	25.5 - 28 cm	9.3 ± 0.3
Kent	F, HP	80 mm	1.0059	26 - 29 cm	16.4 ± 0.4
Kent	F, SP	85 mm	1.0548	26.6 - 28.5 cm	16.2 ± 0.3
Kent	F, SP	100 mm	1.2375	31.5 - 34 cm	19.2 ± 0.3
King Sano	F, SP	85 mm	1.1681	27 - 29 cm	5.8 ± 0.1
King Sano	F, M, SP	85 mm	1.1723	27 - 29 cm	6.3 ± 0.2
Kool	NF, M, SP	70 mm	0.9116	23 cm	20.6 ± 0.5
Kool	F, M, SP	85 mm	0.9964	27 - 30 cm	17.9 ± 0.3
Kool	F, M, SP	100 mm	1.1499	32 - 34 cm	18.7 ± 0.4
L & M	F, SP	70 mm	0.6886	23 - 25.5 cm	16.7 ± 0.5
L & M	F, HP	80 mm	0.9701	26.3 - 27.7 cm	17.5 ± 0.4
L & M	F, SP	85 mm	1.0420	26 - 28 cm	18.4 ± 0.4
L & M	F, SP	100 mm	1.2435	29 - 31 cm	18.8 ± 0.4
L & M	F, M, SP	100 mm	1.2370	28.5 - 31.5 cm	19.9 ± 0.4
Lark	F, SP	85 mm	1.1757	27 - 29 cm	17.1 ± 0.4
Lark	F, SP	100 mm	1.3036	30 - 32 cm	18.1 ± 0.5
Life	F, SP	85 mm	1.0386	31 - 34 cm	10.6 ± 0.3
Lucky Strike	NF, SP	70 mm	0.9655	23 cm	27.0 ± 0.5
Lucky Filters	F, SP	85 mm	1.0560	27 - 29 cm	20.4 ± 0.5
Lucky Filters	F, SP	100 mm	1.2055	32 - 34 cm	20.2 ± 0.5
Mapleton	NF, SP	70 mm	1.0053	23 cm	24.7 ± 0.5
Mapleton	F, SP	85 mm	1.1087	27.5 - 29.5 cm	21.6 ± 0.4
Marlboro	F, HP	80 mm	1.0158	25.2 - 26.5 cm	18.8 ± 0.4
Marlboro	F, SP	85 mm	1.0683	28 - 29 cm	19.9 ± 0.4
Marlboro	F, M, SP	85 mm	1.0780	27 - 29 cm	19.4 ± 0.3
Marlboro	F, HP	100 mm	1.1609	33 - 34 cm	21.2 ± 0.4
Marlboro	F, SP	100 mm	1.2049	32 - 34 cm	22.1 ± 0.4

<sup>1</sup> F=filter; NF=non-filter; M=menthol; HP= hard pack; SP= soft pack; IGP= hard wide pack; mm= millimeter; PB= plastic box

<sup>2</sup> average weight reported in grams

<sup>3</sup> range used for butt length because of variance of overwrap

<sup>4</sup> TMM dry (tar)- milligrams total particulate matter less nicotine and water

<sup>5</sup> milligrams total alkaloids reported as nicotine

<sup>6</sup> limited availability based on reduced sampling from Washington, D.C. only

<sup>7</sup> cigarettes with and without perforations stuck together

<sup>8</sup> cigarettes marketed with filters of different lengths

<sup>9</sup> tolerance shown is two (2) standard deviation of the mean

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Name	Type <sup>1</sup>	Average weight <sup>2</sup>	Butt length <sup>3</sup>	Tar dry <sup>4</sup>	Nicotine <sup>5</sup>
Marvels	RF, SP	70 mm	0.9245	23 mm	0.57 ± 0.02
Marvels	F, SP	70 mm	0.949	27 - 29 mm	0.11 ± 0.01
Marvels	NF, SP	85 mm	1.2281	23 mm	0.77 ± 0.02
Marvels	F, SP	85 mm	1.1665	27 - 29 mm	0.21 ± 0.01
Marvels	F, M, SP	85 mm	1.1250	27.5 - 28.2 mm	0.16 ± 0.01
Montclair	F, M, SP	85 mm	1.0426	26 - 28 mm	0.92 ± 0.02
Multifilter	F, FB	85 mm	1.2346	29 - 34.3 mm	1.02 ± 0.12
Multifilter	F, M, HP	85 mm	1.2054	23 - 34 mm	0.85 ± 0.05
Newport	F, M, HP	80 mm	0.9240	23 - 25 mm	1.07 ± 0.02
Newport	F, M, SP	85 mm	1.0300	26 - 28 mm	1.11 ± 0.03
Newport	F, M, SP	100 mm	1.2315	32 - 34 mm	1.26 ± 0.03
Carlo	F, M, SP	85 mm	1.0537	26 - 28 mm	1.04 ± 0.03
Old Gold Straight	NF, SP	70 mm	0.9978	23 mm	1.25 ± 0.03
Old Gold Straight	NF, SP	85 mm	1.1079	23 mm	1.69 ± 0.04
Old Gold Filter	F, SP	85 mm	1.0516	27 - 28 mm	1.18 ± 0.04
Old Gold Filter	F, SP	100 mm	1.2295	32 - 34 mm	1.46 ± 0.03
Pall Mall	NF, SP	85 mm	1.1346	23 mm	1.72 ± 0.03
Pall Mall	F, HW	95 mm	1.1036	31.8 - 34.2 mm	1.33 ± 0.04
Pall Mall	F, M, HP	95 mm	1.0699	31.5 - 34 mm	1.15 ± 0.04
Pall Mall	F, SP	100 mm	1.1810	31.5 - 34 mm	1.35 ± 0.03
Pall Mall	F, M, SP	102 mm	1.1471	32 - 34 mm	1.80 ± 0.4
Parliament	F, HP	80 mm	1.0377	30.4 - 31.5 mm	1.61 ± 0.02
Parliament	F, SP	85 mm	1.1632	32 - 35 mm	1.62 ± 0.03
Parliament	F, SP	100 mm	1.3893	37.2 - 40.3 mm	1.21 ± 0.05
Peter Stuyvesant	F, SP	85 mm	1.1312	23 - 27.3 mm	1.49 ± 0.03
Peter Stuyvesant	F, SP	100 mm	1.2823	29.5 - 32.5 mm	1.64 ± 0.03
Philip Morris	NF, SP	70 mm	0.9636	23 mm	1.75 ± 0.03
Philip Morris Commander	NF, SP	85 mm	1.1772	23 mm	1.77 ± 0.03
Picayune	NF, SP	70 mm	0.8962	23 mm	1.39 ± 0.03
Piedmont	NF, SP	70 mm	0.9722	23 mm	1.38 ± 0.03
Players	NF, HW	70 mm	1.1169	23 mm	1.93 ± 0.07
Raleigh	NF, SP	85 mm	1.0903	23 mm	1.49 ± 0.03
Raleigh	F, SP	85 mm	1.0379	27 - 28.1 mm	1.16 ± 0.02
Raleigh	F, SP	100 mm	1.1714	31.5 - 34.5 mm	1.24 ± 0.02
Salem	F, M, SP	65 mm	1.0242	26.5 - 28 mm	1.32 ± 0.03
Salem	F, M, SP	100 mm	1.2996	32.7 - 33.5 mm	1.45 ± 0.02
Sena	NF, SP	70 mm	1.0173	23 mm	0.45 ± 0.02
Silva Slims	F, SP	100 mm	1.0948	32 - 34.5 mm	0.97 ± 0.05
Silva Slims	F, M, SP	100 mm	0.9353	32 - 34 mm	1.05 ± 0.02
Spring	F, M, SP	100 mm	1.2567	32 - 34 mm	1.17 ± 0.02
Stratford	NF, SP	85 mm	1.2024	23 mm	0.84 ± 0.02
Tarleton	F, SP	85 mm	1.1132	26 - 28.2 mm	1.12 ± 0.03
Tarleton	F, SP	100 mm	1.2502	32 - 34 mm	1.19 ± 0.02
Tempo	F, SP	85 mm	1.1100	32 - 34 mm	0.99 ± 0.02
True	F, SP	85 mm	1.0831	32.7 - 34.2 mm	0.68 ± 0.02
True	F, M, SP	85 mm	1.0824	31.7 - 34.2 mm	0.67 ± 0.02
Viceroy	F, SP	85 mm	1.0474	27.1 - 29.1 mm	1.18 ± 0.02
Viceroy	F, SP	100 mm	1.2085	32 - 34.8 mm	1.49 ± 0.03
Virginia Slims	F, SP	100 mm	1.0298	34 - 36 mm	1.18 ± 0.02
Virginia Slims	F, M, SP	100 mm	1.0295	34.5 - 36 mm	1.19 ± 0.03
Vogue (black)	F, HP	85 mm	1.1475	23 - 23.7 mm	0.66 ± 0.05
Vogue (colors)	F, HW	85 mm	1.1337	23 - 24.5 mm	0.61 ± 0.04
Winston	F, HP	80 mm	1.0042	23.6 - 24.8 mm	1.30 ± 0.04
Winston	F, SP	65 mm	1.0374	26 - 27.5 mm	1.29 ± 0.03
Winston	F, SP	100 mm	1.2393	32 - 33.8 mm	1.38 ± 0.02
Winston	F, M, SP	100 mm	1.2925	32 - 34 mm	1.50 ± 0.03

<sup>1</sup> F= filter; NF= non-filter; M= menthol; HP= hard wide pack; SP= soft pack; mm= millimeter  
 PB= plastic box

<sup>2</sup> average weight reported in grams

<sup>3</sup> range used for butt length because of variance of overlap

<sup>4</sup> Tar dry (tar)= milligrams total particulate matter less nicotine and water

<sup>5</sup> milligrams total alkaloids reported as nicotine

<sup>6</sup> limited availability based on reduced sampling from Washington, D.C. only

<sup>7</sup> cigarettes with and without perforations smoked together

<sup>8</sup> cigarettes marketed with filters of different lengths

<sup>9</sup> tolerance shown is two (2) standard deviation of the mean

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Tar<sup>1</sup> and Nicotine Content of Cigarettes by Brand  
of Domestic Cigarettes  
(shown in increasing order of tar values)

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Brand	Type	Tar (mg./cig.)	Nicotine (mg./cig.)
Carlton	reg. size, filter	2	0.2
Marvels	reg. size, filter	3	0.1
Carlton	king size, filter	4	0.3
Marvels	king size, filter, menthol	4	0.2
Marvels	king size, filter	5	0.2
King Size	king size, filter	6	0.2
King Size	king size, filter, menthol	6	0.2
Friggs	king size, filter, menthol	9	0.3
Kent	reg. size, filter	9	0.5
Duke	king size, filter	10	0.3
Life	king size, filter	11	0.7
Multifilter	king size, filter, menthol, (plastic box)	12	0.9
Turbo	king size, filter	12	0.9
True	king size, filter	12	0.7
Montclair	king size, filter, menthol	13	0.9
Boral	king size, filter, menthol	13	1.0
Boral	king size, filter	14	0.9
Multifilter	king size, filter, (plastic box)	15	1.0
Sano	reg. size, non-filter	15	0.5
Silva Thins	100 mm, filter, menthol	16	1.0
Parliament	king size, filter, (hard pack)	16	1.0
Silva Thins	100 mm, filter	16	1.0
Parliament	king size, filter	16	1.0
Kent	king size, filter	16	1.0
Raleigh	king size, filter, menthol	16	1.2
Pall Mall	95 mm, filter, menthol, (hard pack)	17	1.2
L & H	reg. size, filter	17	0.9
Lock	king size, filter	17	1.1
Raleigh	king size, filter	17	1.2
Victory	king size, filter	17	1.2
Denina	king size, filter, menthol	17	0.9
Marvels	reg. size, non-filter	17	0.6
Coolfides Double Blue	reg. size, filter	17	0.9
Tareyton	king size, filter	17	1.1
Vogue (colors)	king size, filter, (hard pack)	17	0.6
L & H	king size, filter, (hard pack)	18	1.0
Kool	king size, filter, menthol	18	1.4
Oasis	king size, filter, menthol	18	1.0
Tareyton	100 mm, filter	18	1.2
D'ourler	king size, filter, (hard pack)	18	1.3
Virginia Slims	100 mm, filter	18	1.2
Pall Mall	100 mm, filter, menthol	18	1.3
Edgeworth Export	king size, filter, (hard pack)	18	1.2
Lack	100 mm, filter	18	1.1
Raleigh	100 mm, filter	18	1.2
Belair	100 mm, filter, menthol	18	1.3
L & M	king size, filter	18	1.1
Virginia Slims	100 mm, filter, menthol	18	1.2
Home Run	reg. size, non-filter	18	1.3
Chesterfield	king size, filter, menthol	18	1.1
Newport	king size, filter, menthol, (hard pack)	19	1.1
Alpine	king size, filter, menthol	19	1.2
Pall Mall	95 mm, filter, (hard pack)	19	1.3
Newport	king size, filter, menthol	19	1.1
Kool	100 mm, filter, menthol	19	1.3
Benson & Hedges	reg. size, filter, (hard pack)	19	1.4
L & H	100 mm, filter	19	1.2
Marlboro	king size, filter, (hard pack)	19	1.2
L & H	100 mm, filter, menthol	19	1.2
Salem	king size, filter, menthol	19	1.3
Parliament	100 mm, filter	19	1.3
Kent	100 mm, filter	19	1.2
Victory	100 mm, filter	19	1.4
Picayune	reg. size, non-filter	19	1.4
Old Gold Filter	king size, filter	19	1.2
Marlboro	king size, filter, menthol	19	1.3
Camel	king size, filter	20	1.3
Pall Mall	100 mm, filter	20	1.4
Winston	king size, filter	20	1.3
Edgeworth Export	100 mm, filter	20	1.4

<sup>1</sup> Milligrams (tar) - milligrams total particulate matter less nicotine and water

<sup>2</sup> Limited availability based on reduced sampling from Washington, D.C. only

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Tar<sup>1</sup> and Nicotine Content of One-hundred-twenty (120) Varieties  
of Domestic Cigarettes  
(shown in increasing order of tar values)

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Brand	Type	Tar (mg./cig.)	Nicotine (mg./cig.)
Winston	king size, filter, (hard pack)	20	1.3
Marlboro	king size, filter	20	1.3
Gauloises Goporal	reg. size, non-filter	20	0.9
Benson & Hedges	king size, filter, (hard pack)	20	1.4
Benson & Hedges	100 mm, filter	20	1.4
Chesterfield	king size, filter	20	1.4
Lucky Filters	100 mm, filter	20	1.4
Winston	100 mm, filter	20	1.4
Calaxy	king size, filter	20	1.4
Lucky Filters	king size, filter	20	1.5
Kool	reg. size, non-filter, menthol	21	1.3
Chesterfield	101 mm, filter	21	1.4
Newport	100 mm, filter, menthol	21	1.3
Century	100 mm, filter	21	1.3
Benson & Hedges	100 mm, filter, menthol	21	1.4
Salem	100 mm, filter, menthol	21	1.5
Marlboro	100 mm, filter, (hard pack)	21	1.4
Spring	100 mm, filter, menthol	21	1.2
Winston	100 mm, filter, menthol	22	1.5
Mapleton	king size, filter	22	1.0
Old Gold Straights	reg. size, non-filter	22	1.3
Posina	king size, filter	22	1.3
Stratford	king size, non-filter	22	0.8
Marlboro	100 mm, filter	22	1.5
Peter Stuyvesant	100 mm, filter	22	1.5
Marvels	king size, non-filter	23	0.8
Half & Half	king size, filter	23	1.6
Philip Morris	reg. size, non-filter	23	1.5
Camel	reg. size, non-filter	24	1.5
Old Gold Filter	100 mm, filter	24	1.5
Raleigh	king size, non-filter	24	1.5
Peter Stuyvesant	king size, filter	24	1.5
Chesterfield	reg. size, non-filter	24	1.4
English Oval	reg. size, non-filter, (hard pack)	24	1.8
Piedmont	reg. size, non-filter	24	1.4
Mapleton	reg. size, non-filter	25	1.0
Vogue (Black)	king size, filter, (hard pack)	25	0.9
Domino	king size, non-filter	25	1.2
Lucky Strike	reg. size, non-filter	27	1.6
Old Gold Straights	king size, non-filter	27	1.6
Herbert Tareyton	king size, non-filter	28	1.7
Pall Mall	king size, non-filter	28	1.7
Chesterfield	king size, non-filter	28	1.7
Bull Durham	king size, filter	28	1.8
English Oval	king size, non-filter, (hard pack)	29	2.2
Philip Morris Commander	king size, non-filter	29	1.8
Players	reg. size, non-filter	30	2.0
Fatima	king size, non-filter	31	1.8

<sup>1</sup> TPM dry (tar) = milligrams total particulate matter less nicotine and water

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Tar<sup>1</sup> and Nicotine Content of One-hundred-twenty (120) Varieties  
of Domestic Cigarettes  
(shown in increasing order of nicotine values)

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Brand	Type	Tar (mg/cig.)	Nicotine (mg/cig.)
Marvels	reg. size, filter	3	0.1
Marvels	king size, filter, menthol	4	0.2
Carlton <sup>2</sup>	reg. size, filter	2	0.2
Marvels	king size, filter	5	0.2
King Sano	king size, filter	6	0.2
King Sano	king size, filter, menthol	6	0.2
Frappe	king size, filter, menthol	9	0.3
Carlton	king size, filter	4	0.3
Duke	king size, filter	10	0.3
Sano	reg. size, non-filter	15	0.5
Kent	reg. size, filter	9	0.5
Marvels	reg. size, non-filter	17	0.6
Vogue (colors)	king size, filter, (hard pack)	17	0.6
True	king size, filter, menthol	13	0.7
True	king size, filter	12	0.7
Life	king size, filter	11	0.7
Marvels	king size, non-filter	23	0.8
Stratford	king size, non-filter	22	0.8
Multifilter	king size, filter, menthol, (plastic box)	12	0.9
Gauloises Biisque Bleu	reg. size, filter	17	0.9
Vogue (black)	king size, filter, (hard pack)	25*	0.9
Tempo	king size, filter	12	0.9
Domino	king size, filter, menthol	17	0.9
Montelair	king size, filter, menthol	13	0.9
L & H	reg. size, filter	17	0.9
Doral	king size, filter	14	0.9
Gauloises Caporal	reg. size, non-filter	20	0.9
Doral	king size, filter, menthol	13	1.0
Mapleton	king size, filter	22	1.0
Pink	king size, filter	16	1.0
Silva Thins	100 mm, filter	16	1.0
Kent	king size, filter, (hard pack)	16	1.0
Silva Thins	100 mm, filter, menthol	16	1.0
Parliament	king size, filter, (hard pack)	16	1.0
Multifilter	king size, filter, (plastic box)	15	1.0
Parliament	king size, filter	16	1.0
L & H	king size, filter, (hard pack)	18	1.0
Mapleton	reg. size, non-filter	25	1.0
Gaxis	king size, filter, menthol	18	1.0
Lark	king size, filter	17	1.1
Newport	king size, filter, menthol, (hard pack)	19	1.1
Chesterfield	king size, filter, menthol	18	1.1
Domino	king size, filter	22	1.1
Newport	king size, filter, menthol	19	1.1
L & H	king size, filter	18	1.1
Tareyton	king size, filter	17	1.1
Lark	100 mm, filter	18	1.1
Pall Mall	95 mm, filter, menthol, (hard pack)	17	1.2
Raleigh	king size, filter	17	1.2
L & H	100 mm, filter	19	1.2
Alpine	king size, filter, menthol	19	1.2
Spring	100 mm, filter, menthol	21	1.2
Viceroy	king size, filter	17	1.2
Virginia Slims	100 mm, filter	18	1.2
Kent	100 mm, filter	19	1.2
Edgeworth Export	king size, filter, (hard pack)	18	1.2
Old Gold Filter	king size, filter	19	1.2
Tareyton	100 mm, filter	18	1.2
Virginia Slims	100 mm, filter, menthol	18	1.2
L & H	100 mm, filter, menthol	19	1.2
Belair	king size, filter, menthol	16	1.2
Domino	king size, non-filter	25	1.2
Marlboro	king size, filter, (hard pack)	19	1.2
Raleigh	100 mm, filter	18	1.2
Old Gold Straights	reg. size, non-filter	22	1.3
Parliament	100 mm, filter	19	1.3
Newport	100 mm, filter, menthol	21	1.3
Duluthite	king size, filter, (hard pack)	18	1.3

<sup>1</sup> TM dry (tar) = milligrams total particulate matter less nicotine and water

<sup>2</sup> Limited availability based on reduced sampling from Washington, D.C. only

1005045850

Listing of "Tar"<sup>1</sup> Values for Five (5) Testing Periods

OCT 21 1973

Brand	Type	Feb., 1969	July, 1969	Nov., 1969	May, 1970	Oct., 1970
Alpine	king size, filter, menthol	20	20	19	19	18
Belair	king size, filter, menthol	19	19	18	18	16
Belair	100 mm, filter, menthol	*	*	*	19	18
Benson & Hedges	reg. size, filter, (hard pack)	20	20	20	19	19
Benson & Hedges	king size, filter, (hard pack)	21	20	20	20	20
Benson & Hedges	100 mm, filter	21	21	20	20	20
Benson & Hedges	100 mm, filter, menthol	21	22	21	21	21
Bull Durham	king size, filter	29	29	29	28	28
Camel	reg. size, non-filter	26	25	25	25	24
Camel	king size, filter	21	21	21	20	20
Carlton	reg. size, filter	*	*	*	2	2
Carlton	king size, filter	5	4	5	6	4
Cascade	king size, filter, menthol	8	*	*	*	*
Century	100 mm, filter	23	22	21	20	21
Chesterfield	reg. size, non-filter	25	25	24	25	24
Chesterfield	king size, non-filter	29	30	29	29	28
Chesterfield	king size, filter	23	22	21	21	20
Chesterfield	king size, filter, menthol	21	20	19	19	18
Chesterfield	101 mm, filter	21	20	21	21	21
Colony	100 mm, filter	29	*	*	*	*
Colony	100 mm, filter, menthol	26	*	*	*	25
Dosino	king size, non-filter	25	26	25	24	25
Dosino	king size, filter	22	21	21	21	22
Duccino	king size, filter, menthol	14	16	16	18	17
Doral	king size, filter	*	*	15	14	14
Doral	king size, filter, menthol	*	*	14	14	13
Duke of Durban	king size, filter	10	10	10	10	10
Dunhill	king size, filter, (hard pack)	18	18	18	18	18
Edgeworth Export	king size, filter, (hard pack)	*	*	*	*	20
Edgeworth Export	100 mm, filter	*	*	*	*	*
English Oval's	reg. size, non-filter, (hard pack)	27	28	28	26	24
English Oval's	king size, non-filter, (hard pack)	36	35	31	29	29
Fatime	king size, non-filter	33	32	32	31	31
Frappe	king size, filter, menthol	10	11	10	10	9
Galaxy	king size, filter	21	21	20	21	20
Gauloises Copeau	reg. size, non-filter	25	26	24	22	20
Gauloises Disque Bleu	reg. size, filter	23	21	21	20	17
Half & Half	king size, filter	24	23	22	23	23
Heinrich	king size, filter, (hard pack)	25	*	*	*	*
Herbert Tareyton	king size, non-filter	31	29	27	27	28
Holiday	king size, non-filter	35	32	31	*	*
Holiday	king size, filter	27	25	25	*	*
Home Run	reg. size, non-filter	20	20	19	20	19
Kent	reg. size, filter	12	10	10	10	9
Kent	king size, filter, (hard pack)	18	17	17	16	16
Kent	king size, filter	17	17	16	16	16
Kent	100 mm, filter	20	18	19	19	19
King Sano	king size, filter	7	7	7	5	6
King Sano	king size, filter, menthol	8	8	7	7	6
Kool	reg. size, non-filter, menthol	22	21	21	20	21
Kool	king size, filter, menthol	19	19	18	17	18
Kool	100 mm, filter, menthol	21	21	20	20	19
Lark	king size, filter	18	18	17	17	17
Lark	100 mm, filter	19	19	18	18	18
Life	king size, filter	11	11	11	10	11
L & H	reg. size, filter	18	18	17	17	17
L & H	king size, filter, (hard pack)	19	18	18	18	18
L & H	king size, filter	20	20	19	19	18
L & H	100 mm, filter	20	19	19	19	19
L & H	100 mm, filter, menthol	20	20	19	19	19
Lucky Strike	reg. size, non-filter	29	28	28	28	27
Lucky Filters	king size, filter	21	22	21	20	20
Lucky Filters	king size, filter, menthol	20	20	*	*	*
Lucky Filters	100 mm, filter	21	21	20	20	20
Lucky Filters	100 mm, filter, menthol	19	18	*	*	*
Mapleton	reg. size, non-filter	24	24	26	27	25
Mapleton	king size, filter	21	22	22	22	22
Marlboro	king size, filter, (hard pack)	21	20	19	19	19
Marlboro	king size, filter	22	21	20	20	20
Marlboro	king size, filter, menthol	21	21	21	20	19
Marlboro	100 mm, filter	23	22	21	21	22
Marlboro	100 mm, filter, (hard pack)	22	21	21	21	21

<sup>1</sup> TPH dry (tar) - milligrams total particulate matter less nicotine and water

\* Denotes varieties not available during market sampling

1005045851

## Listing of "Tar" Values for Five (5) Testing Periods

OCT 21 1970

Brand	Type	Feb., 1969	July, 1969	Nov., 1969	May, 1970	Oct., 1970
Marvels	reg. size, non-filter	19	18	20	17	17
Marvels	reg. size, filter	4	3	4	3	3
Marvels	king size, non-filter	25	24	24	23	23
Marvels	king size, filter	7	6	6	5	5
Marvels	king size, filter, menthol	5	5	4	4	4
Montclair	king size, filter, menthol	11	9	9	11	13
Multifilter	king size, filter, (plastic box)	*	*	*	16	15
Multifilter	king size, filter, menthol	*	*	*	13	12
Newport	king size, filter, menthol, (hard pack)	21	20	19	19	19
Newport	king size, filter, menthol	21	21	20	19	19
Newport	100 mm, filter, menthol	21	22	21	21	21
Oasis	king size, filter, menthol	21	19	19	18	18
Old Gold Straights	reg. size, non-filter	23	23	22	21	22
Old Gold Straights	king size, non-filter	29	28	27	27	27
Old Gold Filter	king size, filter	21	21	20	20	19
Old Gold Filter	100 mm, filter	*	*	24	24	24
Omar	reg. size, non-filter	30	*	*	*	*
Pall Mall	king size, non-filter	29	28	28	28	28
Pall Mall	95 mm, filter, (hard pack)	19	19	19	19	19
Pall Mall	95 mm, filter, menthol, (hard pack)	19	18	17	17	17
Pall Mall	100 mm, filter	20	19	19	19	20
Pall Mall	100 mm, filter, menthol	19	17	18	18	18
Parliament	king size, filter, (hard pack)	16	16	16	16	16
Parliament	king size, filter	17	16	16	16	16
Parliament	100 mm, filter	*	*	*	*	19
Peter Stuyvesant	king size, filter	*	*	*	*	24
Peter Stuyvesant	100 mm, filter	*	*	*	*	22
Philip Morris	reg. size, non-filter	25	25	24	23	23
Philip Morris Commander	king size, non-filter	32	30	29	29	29
Philip Morris	king size, filter	19	19	19	*	*
Philip Morris	king size, filter, menthol	20	20	15	*	*
Picayune	reg. size, non-filter	21	21	20	21	19
Piedmont	reg. size, non-filter	25	25	24	24	24
Players	reg. size, non-filter, (hard pack)	32	32	31	31	30
Raleigh	king size, non-filter	30	28	25	26	26
Raleigh	king size, filter	19	19	18	17	17
Raleigh	100 mm, filter	*	*	*	18	18
Salem	king size, filter, menthol	21	20	20	20	19
Salem	100 mm, filter, menthol	22	21	21	21	21
Sano	reg. size, non-filter	17	14	14	15	15
Sano	reg. size, filter	4	4	*	4	*
Silva Thine	100 mm, filter	15	15	16	16	16
Silva Thine	100 mm, filter, menthol	15	16	16	16	16
Spring	100 mm, filter, menthol	21	21	21	21	21
Stratford	king size, non-filter	26	25	24	23	22
Stratford	king size, filter	20	19	18	19	*
Stratford	king size, filter, menthol	21	21	19	19	*
Sweet Caporal	king size, filter	23	*	*	*	*
Tareyton	king size, filter	18	17	16	17	17
Tareyton	100 mm, filter	18	16	17	18	18
Tempo	king size, filter	14	13	12	12	12
True	king size, filter	13	12	13	13	12
True	king size, filter, menthol	13	12	12	12	13
Tryon	king size, filter	12	*	12	*	*
Tryon	king size, filter, menthol	11	11	11	*	*
Viceroy	king size, filter	20	19	18	17	17
Viceroy	100 mm, filter	21	20	19	20	19
Virginia Slims	100 mm, filter	18	18	18	18	18
Virginia Slims	100 mm, filter, menthol	19	18	18	18	18
Vogue (black)	king size, filter, (hard pack)	20	18	20	22	25
Vogue (colors)	king size, filter, (hard pack)	13	13	13	16	18
Wings	king size, filter	20	*	*	*	*
Winston	king size, filter, (hard pack)	22	21	21	20	20
Winston	king size, filter	21	21	21	20	20
Winston	100 mm, filter	22	21	21	21	20
Winston	100 mm, filter, menthol	22	21	21	22	22
Yukon	king size, filter, menthol	20	20	20	*	*

<sup>1</sup> TPM dry (tar) - milligrams total particulate matter less nicotine and water  
 Denotes varieties not available during market sampling

1005045852

## Listing of Nicotine Values for Five (5) Testing Periods

OCT 21 1970

Brand	Type	Feb., 1969	July 1969	Nov., 1969	May 1970	Oct., 1970
Alpine	king size, filter, menthol	1.3	1.3	1.3	1.1	1.2
Belair	king size, filter, menthol	1.6	1.5	1.5	1.4	1.2
Belair	100 mm, filter, menthol	*	*	*	1.4	1.3
Benson & Hedges	reg. size, filter, (hard pack)	1.4	1.6	1.4	1.4	1.4
Benson & Hedges	king size, filter, (hard pack)	1.5	1.5	1.5	1.4	1.4
Benson & Hedges	100 mm, filter	1.5	1.5	1.4	1.4	1.4
Benson & Hedges	100 mm, filter, menthol	1.5	1.5	1.4	1.4	1.4
Bull Durham	king size, filter	1.9	1.9	1.8	1.7	1.8
Camel	reg. size, non-filter	1.6	1.6	1.6	1.5	1.5
Camel	king size, filter	1.3	1.4	1.4	1.3	1.3
Carlton	reg. size, filter	*	*	*	0.2	0.2
Carlton	king size, filter	0.4	0.3	0.4	0.3	0.3
Cascade	king size, filter, menthol	0.3	*	*	*	*
Century	100 mm, filter	1.5	1.4	1.3	1.3	1.3
Chesterfield	reg. size, non-filter	1.4	1.4	1.3	1.4	1.4
Chesterfield	king size, non-filter	1.6	1.7	1.6	1.7	1.7
Chesterfield	king size, filter	1.5	1.5	1.4	1.4	1.3
Chesterfield	king size, filter, menthol	1.2	1.2	1.1	1.1	1.1
Chesterfield	101 mm, filter	1.3	1.3	1.5	1.5	1.4
Colony	100 mm, filter	1.8	*	*	*	*
Colony	100 mm, filter, menthol	1.4	*	*	*	*
Domino	king size, non-filter	1.1	1.2	1.1	1.1	1.2
Domino	king size, filter	1.0	1.0	1.0	1.0	1.1
Domino	king size, filter, menthol	0.7	0.9	0.9	1.0	0.9
Doral	king size, filter	*	*	1.0	0.9	0.9
Doral	king size, filter, menthol	*	*	1.0	1.0	1.0
Duke of Durham	king size, filter	0.4	0.4	0.4	0.3	0.3
Dufourier	king size, filter, (hard pack)	1.5	1.4	1.4	1.3	1.3
Egerton Export	king size, filter, (hard pack)	*	*	*	*	1.2
Edgeworth Export	100 mm, filter	*	*	*	*	1.4
English Ovals	reg. size, non-filter, (hard pack)	1.9	2.1	2.1	1.9	1.8
English Ovals	king size, non-filter, (hard pack)	2.6	2.7	2.5	2.2	2.2
Fatima	king size, non-filter	1.9	1.9	1.9	1.8	1.8
Freppé	king size, filter, menthol	0.3	0.4	0.4	0.4	0.3
Galaxy	king size, filter	1.5	1.5	1.5	1.4	1.4
Gauloises Caporal	reg. size, non-filter	1.3	1.3	1.2	1.1	1.0
Gauloises Disque Bleu	reg. size, filter	1.3	1.2	1.2	1.1	0.9
Half & Half	king size, filter	1.7	1.6	1.5	1.6	1.6
Helmar	king size, filter, (hard pack)	1.5	*	*	*	*
Herbert Tareyton	king size, non-filter	1.8	1.7	1.6	1.6	1.7
Holiday	king size, non-filter	2.1	2.2	1.9	*	*
Holiday	king size, filter	1.7	1.8	1.6	*	*
Home Run	reg. size, non-filter	1.7	1.6	1.5	1.5	1.3
Kent	reg. size, filter	0.7	0.6	0.6	0.5	0.6
Kent	king size, filter, (hard pack)	1.1	1.1	1.1	1.0	1.0
Kent	king size, filter	1.1	1.1	1.0	1.0	1.0
Kent	100 mm, filter	1.3	1.2	1.2	1.2	1.2
King Sano	king size, filter	0.3	0.3	0.2	0.2	0.2
King Sano	king size, filter, menthol	0.3	0.3	0.2	0.2	0.2
Kool	reg. size, non-filter, menthol	1.6	1.7	1.5	1.3	1.3
Kool	king size, filter, menthol	1.6	1.6	1.5	1.3	1.4
Kool	100 mm, filter, menthol	1.6	1.7	1.5	1.5	1.3
Lark	king size, filter	1.2	1.1	1.1	1.0	1.1
Lark	100 mm, filter	1.3	1.3	1.1	1.1	1.1
Life	king size, filter	0.7	0.7	0.7	0.6	0.7
L & M	reg. size, filter	1.0	1.0	1.0	0.9	0.9
L & M	king size, filter, (hard pack)	1.1	1.1	1.1	1.0	1.0
L & M	king size, filter	1.2	1.2	1.1	1.1	1.1
L & M	100 mm, filter	1.2	1.2	1.1	1.1	1.2
L & M	100 mm, filter, menthol	1.3	1.3	1.2	1.2	1.2
Lucky Strike	reg. size, non-filter	1.7	1.6	1.6	1.6	1.6
Lucky Filters	king size, filter	1.4	1.4	1.4	1.3	1.5
Lucky Filters	king size, filter, menthol	1.1	1.2	*	*	*
Lucky Filters	100 mm, filter	1.4	1.4	1.4	1.4	1.4
Lucky Filters	100 mm, filter, menthol	1.1	1.1	*	*	*
Mapleton	reg. size, non-filter	0.9	0.9	1.1	1.1	1.0
Mapleton	king size, filter	0.9	1.0	1.0	1.0	1.0
Marlboro	king size, filter, (hard pack)	1.4	1.4	1.3	1.3	1.2
Marlboro	king size, filter	1.5	1.4	1.4	1.3	1.3
Marlboro	king size, filter, menthol	1.4	1.4	1.4	1.3	1.3
Marlboro	100 mm, filter	1.6	1.6	1.5	1.5	1.5
Marlboro	100 mm, filter, (hard pack)	1.5	1.6	1.5	1.6	1.6

\* Denotes varieties not available during market sampling

1005045853

## Listing of Nicotine Values for Five (5) Testing Periods

U.S. 11174

Brand	Type	Feb., 1969	July, 1969	Nov., 1969	May, 1970	Oct., 1970
Marvels	reg. size, non-filter	0.7	0.6	0.7	0.6	0.6
Marvels	reg. size, filter	0.1	0.1	0.1	0.1	0.1
Marvels	king size, non-filter	0.9	0.9	0.9	0.8	0.8
Marvels	king size, filter	0.3	0.2	0.2	0.2	0.2
Marvels	king size, filter, menthol	0.2	0.2	0.2	0.2	0.2
Montclair	king size, filter, menthol	0.7	0.7	0.7	1.0	1.0
Multifilter	king size, filter, (plastic box)	*	*	*	0.9	0.9
Multifilter	king size, filter, menthol, (plastic box)	*	*	*	0.9	0.9
Newport	king size, filter, menthol, (hard pack)	1.4	1.3	1.2	1.1	1.1
Newport	king size, filter, menthol	1.3	1.3	1.2	1.1	1.1
Newport	100 mm, filter, menthol	1.4	1.4	1.3	1.3	1.3
Oasis	king size, filter, menthol	1.2	1.2	1.1	1.0	1.0
Old Gold Straights	reg. size, non-filter	1.4	1.4	1.3	1.2	1.3
Old Gold Straights	king size, non-filter	1.8	1.8	1.6	1.6	1.6
Old Gold Filters	king size, filter	1.2	1.3	1.2	1.2	1.2
Old Gold Filters	100 mm, filter	*	*	1.5	1.5	*
Osar	reg. size, non-filter	1.7	*	*	*	*
Pall Mall	king size, non-filter	1.7	1.7	1.8	1.8	1.7
Pall Mall	95 mm, filter, (hard pack)	1.2	1.3	1.2	1.3	1.3
Pall Mall	95 mm, filter, menthol, (hard pack)	1.1	1.2	1.1	1.1	1.2
Pall Mall	100 mm, filter	1.3	1.3	1.3	1.3	1.4
Pall Mall	100 mm, filter, menthol	1.2	1.2	1.2	1.3	1.3
Parliament	king size, filter, (hard pack)	1.1	1.1	1.0	1.0	1.0
Parliament	king size, filter	1.1	1.1	1.1	1.0	1.0
Parliament	100 mm, filter	*	*	*	*	1.3
Peter Stuyvesant	king size, filter	*	*	*	*	1.5
Peter Stuyvesant	100 mm, filter	*	*	*	*	1.5
Philip Morris	reg. size, non-filter	1.6	1.6	1.6	1.5	1.5
Philip Morris Commander	king size, non-filter	2.1	2.0	1.9	1.9	1.8
Philip Morris	king size, filter	1.6	1.6	1.6	*	*
Philip Morris	king size, filter, menthol	1.5	1.5	1.1	*	*
Picayune	reg. size, non-filter	1.7	1.8	1.6	1.5	1.4
Piedmont	reg. size, non-filter	1.4	1.5	1.4	1.4	1.4
Players	reg. size, non-filter, (hard pack)	2.0	2.1	2.1	2.1	2.0
Raleigh	king size, non-filter	2.2	2.1	1.7	1.6	1.5
Raleigh	king size, filter	1.5	1.5	1.3	1.2	1.2
Raleigh	100 mm, filter	*	*	*	1.2	1.2
Salem	king size, filter, menthol	1.6	1.4	1.4	1.4	1.3
Salem	100 mm, filter, menthol	1.5	1.5	1.5	1.5	1.5
Sano	reg. size, non-filter	0.5	0.5	0.5	0.5	0.5
Sano	reg. size, filter	0.2	0.2	*	0.1	*
Silva Thins	100 mm, filter	0.9	0.9	0.9	1.0	1.0
Silva Thins	100 mm, filter, menthol	0.9	0.9	1.0	1.0	1.0
Spring	100 mm, filter, menthol	1.2	1.2	1.2	1.2	1.2
Stratford	king size, non-filter	1.1	1.0	1.0	0.9	0.8
Stratford	king size, filter	0.7	0.7	0.7	0.7	*
Stratford	king size, filter, menthol	0.8	0.8	0.8	0.8	*
Sweet Caporal	king size, filter	1.4	*	*	*	*
Tareyton	king size, filter	1.1	1.0	1.0	1.1	1.1
Tareyton	100 mm, filter	1.1	1.0	1.1	1.2	1.2
Tempo	king size, filter	0.8	0.8	0.8	0.9	0.9
True	king size, filter	0.7	0.7	0.7	0.7	0.7
True	king size, filter, menthol	0.7	0.6	0.7	0.6	0.7
Tryon	king size, filter	0.9	*	0.9	*	*
Tryon	king size, filter, menthol	0.8	0.8	0.7	*	*
Viceroy	king size, filter	1.5	1.5	1.3	1.2	1.2
Viceroy	100 mm, filter	1.5	1.6	1.5	1.4	1.4
Virginia Slims	100 mm, filter	1.3	1.3	1.2	1.2	1.2
Virginia Slims	100 mm, filter, menthol	1.4	1.3	1.2	1.2	1.2
Vogue (black)	king size, filter, (hard pack)	0.6	0.6	0.7	0.7	0.9
Vogue (color)	king size, filter, (hard pack)	0.4	0.4	0.5	0.5	0.6
Wings	king size, filter	1.5	*	*	*	*
Winston	king size, filter, (hard pack)	1.4	1.3	1.4	1.3	1.3
Winston	king size, filter	1.3	1.4	1.4	1.3	1.3
Winston	100 mm, filter	1.6	1.5	1.5	1.4	1.4
Winston	100 mm, filter, menthol	1.6	1.5	1.5	1.5	1.5
Tukon	king size, filter, menthol	0.8	0.8	0.9	*	*

\* Denotes varieties not available during market sampling

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